

No. XV.—DIPTERA: HETERONEURIDÆ, ORTALIDÆ, TRYPETIDÆ,
SEPSIDÆ, MICROPEZIDÆ, DROSOPHILIDÆ, GEOMYZIDÆ, MILICHIDÆ.

By C. G. LAMB, M.A., B.Sc., *Clare College, Cambridge.*



(COMMUNICATED BY PROFESSOR J. STANLEY GARDINER, M.A., F.R.S., F.L.S.)

(Plates 19—21 and 48 Text-figures.)

Read 4th March, 1914.

THIS paper concludes the description of the Acalyptrate muscids of the Seychelles expedition. Among the families treated of there are several forms which, in the rather fluid state of the classification, must be regarded as possibly needing relegation to other or even to new groupings when the world forms are more fully known. Hence it has been thought desirable to refer fairly fully to the chætotaxy even in individuals which are placed in genera already founded. To save space the following abbreviations are used:

f. o.	fronto-orbital bristles.	prescut.	prescutellar bristles.
i. v.	inner vertical bristles.	p. a.	post-alar bristles.
o. v.	outer vertical bristles.	s. a.	supra-alar bristles.
p. v.	post-vertical bristles.	i. a.	intra-alar bristles.
oc.	ocellar bristles.	st. p.	sternopleural bristles.
post orb.	the row of post-orbital bristles.	mesopl.	mesopleural bristles.
d. c.	dorso-central bristles.	acr.	the acrostichal row.
h.	humeral bristles.	div.	divergent.
n. p.	the two notopleural bristles.	conv.	convergent.
presut.	presutural bristles.		

In describing the head a systematic method has been adopted: the insect is adjusted in the field of the binocular microscope by means of a gimbal-like stand which enables all possible rotations and translations to be made. It is first adjusted to view the vertex perpendicularly, this is called the Top View; it is then twisted about to view the face perpendicularly, and this is called the Front View; finally it is adjusted to look at the side of the head, and this is the Side View. These views correspond to the Plan and Elevations of the engineer's drawings. The structures seen in each view are then described in detail and in order. This method obviates the troublesome process of continually shifting the position of the insect when comparing it with a given description.

The detailed figures in the plates have been reduced from large scale *camera lucida* drawings; the insect was in all cases carefully set in the proper plane by means of sighting the orbital bristles and the vibrissæ etc. till they just came over one another. Most of the drawings are thus exact views of the individual insect's head; in some cases the insertions only of the bristles are shown, giving a more diagrammatic view.

Most of the wings were photographed from dry slide specimens; a large scale was adopted from which the figures were reduced: in the case of a unique specimen, or a very small set in which one specimen could not be spared for the mount, a large scale *camera lucida* drawing was made as for the heads.

Since nearly every species has its wings figured, no description of the venation is (in general) given in the text. In some cases the wings of species that have already been described by others are figured where no such figure exists in the original papers*.

Heteroneuridæ.

HETEROMERINGIA Czerny, Wien. Ent. Zeit., xxii. (1903), p. 72.

1. *Heteromeriugia plumicornis*, n. sp. (Fig. 1 and Plate 19, fig. 1).

This species is a very pale form, and from the description and figures of *Hendelia Beckeri*, Cz. (Czerny, *t. c.*, p. 84 and Taf. 2, figs. 1, 2, 3) must have a considerable superficial resemblance to that species.

Head. Eyes bare. Top view:—frons entirely orange and shining, paler towards the front: the small central area between the three ocelli is shiny black. Hind margin somewhat concave. Chætotaxy normal; front f. o. b. touching at tip; next pair parallel; hind pair somewhat divergent; i. v. parallel; o. v. divergent; p. v. finer, long, much divergent, inserted just on vertex very close together; oc. fine, divergent, inserted between front and side ocelli; post oc. row longest just at back of head. All the bristles somewhat orange. Front view:—antennæ well separated at base, face about square; usual two convergent vibrissæ with minute following row: face all pale yellow, slightly hollowed. Side view (Plate 19, fig. 1):—likewise all yellow in colour as are the palpi and the thickened hairy tongue. Antennæ yellow, except that the upper basal part of third joint is black: the second joint has an elegant calyx-like form and a well-marked spine; the arista is very stout, black, and profusely haired all round with stout black hairs.

Thorax. Orange, shining, covered with fine bristles, and with two brown stripes extending from near the front to the scutellum. Pleuræ shining, darkened from below humeri to abdomen, scutellum a little darkened laterally on the disk. Two d. c. b. on each side along the inner margins of the brown stripes; one h., two n. p., one i. a., one s. a. bristle. Scutellum with two small dorsal bristles and two large subparallel terminal ones.

Wings, as Fig. 1, glassy with brown veins; a little darkened at tips. Halteres orange. Legs, pale yellow, all the tibiæ and tarsi somewhat infuscate. Front femora with a regular row of spines on lower face, middle femora with a similar strong row beneath;

* A first set of the material, including the TYPES of all new genera and species, will be placed in the British Museum. A second set will be retained in the Cambridge University Museum.

the pre-apical tibial bristles are small except on the middle pair of legs which have also a stout terminal tibial spine; the legs all clothed with small black bristles.

Abdomen. Dark shining brown, covered with long bristly yellowish hairs. The male has a well-marked knobbed hypopygium with the usual pair of scale-like appendages.

Size, including antennæ, 2.8 mm.; wing, 2.1 mm.

Localities. Seychelles. Silhouette: Mare aux Cochons, IX. 1908; low coconut-planted country near Pointe Étienne, 17. IX. 1908. Mahé: Anonyme Island, I. 1909.



Fig. 1. *Heteromerhingia plumicornis*, n. sp. $\times 35$.

2. *Heteromerhingia nigrifrons*, n. sp. (Fig. 2 and Pl. 19, fig. 2).

This is a black somewhat shining species and is more like the normal forms of the genus than is the last one.

Head. Eyes bare. Top view:—hind margin distinctly concave; frons uniformly and entirely shining black; chætotaxy normal; front f. o. b. touching, next two pairs parallel; i. v. converging; o. v. fairly divergent; p. v. very divergent, inserted just on vertex between hind ocelli; these bristles are black; oc. b. very minute and pale. Front view:—antennæ nearly touching at base; vibrissæ touching, a row of fine following bristles; face all yellow-orange. Side view (Plate 19, fig. 2):—jowls orange in front getting blacker to hind of head which is shining black behind the eyes. Post-ocular bristles extending along top of eye. Hind jowls with bristles, a few long ones on hind margin of head. Antennæ all clear orange yellow, except the flagellum of the arista which is darkened; the 2nd joint has one upper and two lower bristles and a row of minute marginal bristles; the pubescence of the arista follows the aristal colour and is normal. The finely bristled palpi are much flattened in the horizontal plane; the distal third is orange the rest black; tongue orange.

Thorax. Entirely black, the dorsum and scutellum very slightly roughened, pleura and metanotum very shining. The chætotaxy is normal: two principal d. c. b., a third rather smaller just in front of the front pair, h., two n. p., strong s. a. and p. a. Dorsum covered with fine bristles, except behind. Scutellum with two long terminal b., and two small dorsal near them. A stout mes. p. and st. p. b. Legs yellow except the end of the front femora, all the front tibiæ and tarsi, and the hind tibiæ (except tips) which are black; all the femora with rows of bristles: front femora with a close set lower row and a row of 4 or 5 longer ones behind; middle femora with two rows below, front



short and stout, back long and stout, hind femora with lower row on distal third; very stout spur on middle tibia. Legs all bristly; front tarsi distinctly flattened.

Wings, as Fig. 2, slightly infusate, especially round the distal $\frac{2}{5}$ ths of the 2nd vein. Halteres with infusate heads and yellow stalks.

Abdomen similar to the thorax, clothed with black bristly hairs, a small pair of scale-like appendages are visible, somewhat remote (vertically) from the tip.

Males only were present.

Size 3 mm.; wing, $2\frac{1}{2}$ mm.

Localities. Seychelles. Silhouette: Mare aux Cochons plateau, over 1000 feet, IX. 1908. Mahé: Cascade Estate, ca. 800 feet, 1908—9.



Fig. 2. *Heteromeria nigrifrons*, n. sp. $\times 30$.

3. *Heteromeria nigriceps*, n. sp.

Two specimens, one ♂ and one ♀, were present, which were practically identical in their principal structural details with the previous species. The differences in colour are, however, very marked, and in default of evidence of dimorphism in the males it is thought best to describe them as a distinct species, at least provisionally.

♂ Head. The face is entirely black instead of yellow, so that there is no pale colour at all on any part of the head, except that the lower eye-margins are slightly orange in some lights. The tip of the third antennal joint is blackened: only the extreme tip of the palpi is orange.

Legs. The whole of the front femora, except the extreme tips, is black: the mid and hind femora have, basally, a slightly darkened ring.

The ♀ has the same differences in the head colours but the front femora are only blackened at the tip, and the others have no rings.

Size as last species.

Locality. Seychelles. Mahé: Cascade Estate, 800 feet or over, 1908—9.

ALLOMETOPON Kertész, Ann. Mus. Nat. Hung., iv. (1906), p. 320.

A single specimen, in a rather battered condition, can be referred with practical certainty to this genus. The genus was described from a New Guinea species.

4. *Allometopon flavum*, n. sp. (Fig. 3 and Plate 19, fig. 3).

The species is entirely shining yellow except for slightly browner lines on the thorax, brownish tarsi, and the deep black third antennal joint and arista. The bristles are all distinctly yellow or brownish.

The chætotaxy agrees fairly with Kertész's generic description, except that the ocellar bristles are not strikingly long.

Head. Eyes bare. Top view:—frons orange, finely punctulate, darker and smoother on vertex round ocellar area: ocellar patch shining, eye-margin rather shining. Four f. o. b., all subparallel; nearly parallel i. v., divergent o. v., all these bristles arise from small papillæ: p. v. small, divergent, inserted just behind middle of hind ocelli; oc. small, divergent, inserted just on ocellar patch. The crossed bristles on front of frons are comparatively stout.

In front view the antennæ are seen to touch at base; the face is very narrow and short. In this view the stout subcylindrical yellow palpi are easily seen. Side view (Plate 19, fig. 3):—the antennæ much as Kertész's description and figure *l.c.*, p. 331. The orange 2nd joint is beautifully calyx-like, with bordering spines, one at the top being very long. The rounded rather flattened black third joint has a long blackish, distinctly pubescent arista. A stout vibrissa, followed by a row of marginal mouth bristles; orange jowls, bristly behind, with one very long yellow bristle quite behind: six large post-orbit. bristles on top.

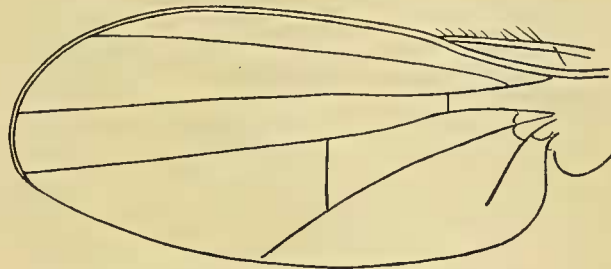


Fig. 3. *Allometopon flavum*, n. sp. × 20.

Thorax. Shining orange, with three narrow brown-orange stripes, evanescent behind: surface all covered with small bristles. The chætotaxy agrees fairly with Kertész's description: two hind d. c. b., a much smaller one in front; two prescut.; h. and n. p. are visible. The rounded orange scutellum has very fine pale pubescence: divergent terminal bristles, basal side bristles (scars only visible), 4 discal (on one side an extra one in the actual specimen).

Wings, Fig. 3: yellowish with brown veins; costa with strong double rowed bristles.

Halters, orange.

Legs. The front femora are strongly spined beneath from apex to base: the middle femora are also strongly spined in a row behind, the spines becoming progressively shorter from base to apex; the hind femora are unarmed; the middle tibia has two very stout black end-spurs.

Abdomen. Orange with rows of short discal, and long marginal bristles.

Size, $3\frac{1}{2}$ mm.; wing, $3\frac{1}{2}$ mm.

Locality. Seychelles. Praslin; Côtés d'Or Estate, XI. 1908.

Ortalidæ.

This family has been revised recently by Dr Hendel, and in the course of his work the material from the British Museum was placed at his disposal; this included several new species from the Seychelles. Only one further undescribed species is therefore dealt with here, namely a member of the genus *Acrosticta* (Loew): this genus is an interesting occurrence, since it has hitherto been known only from North and South America, with the exception that one species (*A. pallipes* Grimshaw) is common both to Bolivia and Peru and Hawaii (see Hendel, Wien. Ent. Zeit., xxviii. (1909), p. 249).

Platystominaæ.

PLAGIOSTENOPTERINA Hendel, Wien. Ent. Zeit., xxxi. (1912), p. 3.

5. *Plagiostenoptera ruficeps* Hendel, Wien. Ent. Zeit., xxxi. (1912), p. 3.
Wing, Fig. 4.

9 specimens.



Fig. 4. *Plagiostenoptera ruficeps*, Hend. $\times 15$.

Localities. Seychelles: Silhouette, coast (La Passe), 1908: Mahé, VII. 1908 (Long Island). Aldabra: 1908—9 (Fryer). Assumption: 1909 (R. P. Dupont).



Fig. 5. *Plagiostenoptera cyanosoma*, Hend. $\times 15$.

6. *Plagiostenoptera cyanosoma* Hendel, Wien. Ent. Zeit., xxxi. (1912), p. 4.
Wing, Fig. 5.

13 specimens.

Localities. Seychelles: Silhouette, plateau of Mare aux Cochons, over 1000 feet, IX. 1908; Mahé; Cascade Estate, 800—1500 feet, 1908—9; Forêt Noire district, 1908; slopes of Morne Seychellois, over 1500 feet, 4. II. 1909; 1907 (Thomasset); 1905. Aldabra: 1907 (Thomasset).

7. *Plagiostenoptera submetallica* Loew, Bericht. Akad. Berl., 1852, 660. 29.
Wing, Fig. 6.

Locality. Seychelles. Mahé: Cascade Estate, 800—1500 feet, 1908—9.
Also known from various parts of Africa.

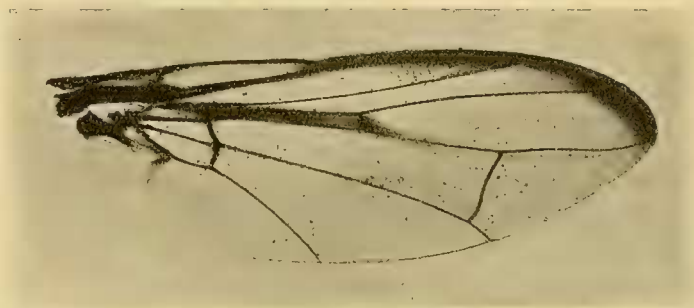


Fig. 6. *Plagiostenoptera submetallica*, Loew, × 15.

SCHOLASTES Loew, Mon. Dipt. N. Amer., vol. iii. (1873), p. 38.

8. *Scholastes cinctus* Guérin, Voyage Coq., Zool., 299.

Localities. Seychelles: Mahé; Cascade Estate, ca. 800 feet, 1908—9; Long Island (near sea-level), VII. 1908. Chagos Islands: Salomon Atoll and Diego Garcia, 1905.

9. *Scholastes vicarius* Hendel, Wien. Ent. Zeit., xxxi. (1912), p. 4.

Locality. Seychelles. Mahé: Anonyme Island (near sea-level), I. 1909.

PARARDELIO Hendel, Wien. Ent. Zeit., xxxi. (1912), p. 1.

10. *Parardelio pilosa* Hendel, *l.c.*, p. 2. Wing, Fig. 7.



Fig. 7. *Parardelio pilosa*, Hend. × 20.

Locality. Seychelles. Mahé: 1906, a number of specimens (Thomasset); from near Morne Blanc, X.—XI. 1908; Cascade Estate, 800—1500 feet, 1908—9.



Ulidinæ.

PSEUDEUXESTA Hendel, Genera Insectorum, 106, p. 30.

11. *Pseudeuxesta prima* Osten-Sacken, Ann. Mus. Gen., xvi. p. 470. Described from Celebes and New Guinea. Wing, Fig. 8.

Localities. Seychelles. Mahé: from beach, Long Island, VII. 1908, 10 specimens; from near Morne Blanc, X.—XI. 1908, 1 specimen.



Fig. 8. *Pseudeuxesta prima*, Ost.-Sack. × 15.

ACROSTICTA Loew, Berlin. Ent. Zeitschr., xi. (1867), p. 293.

See Hendel, Wien. Ent. Zeit., xxviii. (1909), p. 247.

12. *Acrosticta exsul*, n. sp. (Fig. 9 and Plate 19, figs. 4, 5).

This species approximates to *A. scrobiculata* Loew.

Head. Eyes bare. Top view:—hind boundary flat; vertex rather shining greenish-black, finely punctate; broad triangular eye-margins the same; frons with parallel sides, from tip of ocelli to forehead rather shining brownish-red, paler in front. The forward eye-margins, beyond f. o. b., are narrowly silvery. Frons pitted all over, except just in front of ocelli: each pit carries a fine bristly hair, the centre ones converging. Front eye-margins bordered by a regular outward bent row of such bristles. The bristles on paler part in front bend forwards, the others are irregularly oriented.



Fig. 9. *Acrosticta exsul*, n. sp. × 20.

There are two upper f. o. b. bristles on the shiny upper eye-margins, equal sized verticals, i. v. bent towards one another, the o. v. outwards; divergent oc. between front and back ocelli, divergent p. v. well below vertex; a double row of post-ocular bristles on upper half of the hind eye-margins.

Front view (Plate 19, fig. 4):—antennæ well separate at base, face orange in that place, eye-margins well marked, densely pollinated: upper lip shining greenish-black, as is the protuberant clypeus. Side view (Plate 19, fig. 5):—face deeply excavate, lower edge of broad lower eye-margins with a row of bristles: the bristly hind jowls and the back of head all grey pollinated. The bristly tongue is retracted in the specimen, but it can be seen that the palpi are orange: there is a hind lobe to the tongue which is chitinised like the clypeus and is also greenish-black.

The antennæ are darkish orange, the second joint singly spined above, the almost bare flagellum of the arista alone being blackish.

Thorax. Somewhat shining greenish-black with regular rows of fine hairs. The pleura are shining bluish-black, very slightly scrobiculate. The specimens are rather damaged, but the following bristles can be made out: hind d. c., hum., n. p., 2 s. a., p. a. Scutellum bare, subtriangular, coloured as thorax; divergent terminal and smaller basal bristles.

Wings, Fig. 9, slightly suffused, with brown veins, darkened at tip, on stigma and below it to 2nd vein. Halteres, knobs yellow, stalks darkened at the base. Legs entirely dark reddish-black except about the distal third of the femora and the knees which are orange, the under surface of the femora (when legs are stretched horizontally) shows signs of a purplish chitination. The legs are covered with small spines, and on the front femora beneath the spines are longer and form a regular row. All the femora (in the dried specimens) are remarkably flattened sideways. There is a strong black spine at the end of the middle tibia.

Abdomen and metasternum coloured as the thorax, the 2nd and 3rd segments making up most of the length, the surface with sparsely scattered black bristles.

Two ♀.

Size, $3\frac{1}{2}$ mm.; wing, $3\frac{1}{4}$ mm.

Locality. Seychelles. Mahé: from near Morne Blanc, X.—XI. 1908.

CHRYSOMYZA Fallen, Scenop. i. (1817).

13. *Chrysomyza ænea* Fabr., Ent. Syst., iv. (1794), p. 335; Hendel, Zool. Anz., xxxiv. (1909), p. 614.

Localities. Seychelles. Mahé: Cascade Estate, ca. 800 feet, 1908—9: very common in the plantations, sitting on leaves of bushes, &c.

14. *Chrysomyza azurea* Hendel, Wien. Ent. Zeit., xxxi. (1912), p. 5.

Localities. Seychelles: Silhouette; from near Mont Pot-à-eau, ca. 1500 feet, and Mare aux Cochons plateau, over 1000 feet, VIII.—IX. 1908: Mahé; from near sea-level (Long Island), VII. 1908; Forêt Noire district, X.—XI. 1908; Cascade Estate, ca. 800 feet, 1908—9. Chagos Islands; Salomon Atoll, 1905.

In the Ann. Soc. Ent. France, lxiv. (1895), p. 366, the species *Chrysomyza demandata* Macq. is recorded by Giglio-Tos.

Trypetidæ.

CERATITIS MacLeay, Zool. Journal, xvi. (1829), p. 482.

15. *Ceratitis capitata* Wied., Anal. Entom. (1824), 55 (*Trypeta*).

Localities. Seychelles: Mahé; Cascade Estate, and Mare aux Cochons district (1000 feet or over), 1908—9; Dennis Island, VIII. 1908; Praslin, a number of specimens from an introduced creeper (*Passiflora foetida*), 30. XI. 1908. Amirantes: Poivre Island, 10. X. 1905, ♂ and ♀ *in coitu*.

OXYNA Robineau-Desvoidy, Myodaires, 755, iii. (1830).

16. *Oxya sororcula* Wied., Aussereur. Zweifl. Ins., ii. (1830), 509. 52.

Described by Wollaston from Madeira as *Ensina vacillans*, Ins. Dipt. Mad., A.M.N.H., i. (1858), 117.

Localities. Seychelles. Mahé: Port Victoria, from grass in Botanic Gardens, XII. 1908; Cascade Estate, ca. 800 feet, 1908—9; country above Port Glaud, XI. 1908; Mare aux Cochons district, 1000 feet or more, 1909. Silhouette: plateau of Mare aux Cochons, and coconut-planted country near coast (Pointe Étienne), IX. 1908.

ACIDIA Robineau-Desvoidy, Myodaires, 720. 14 (1830).

17. *Acidia seychellensis*, n. sp. (Fig. 10 and Plate 19, fig. 6).

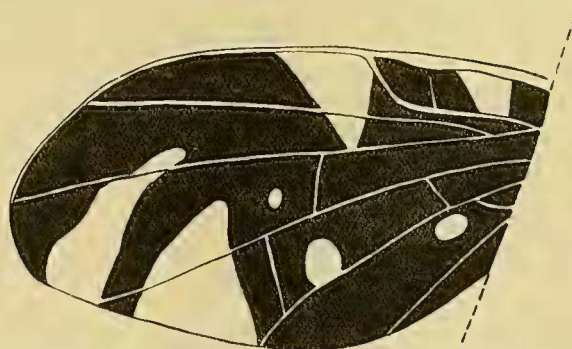


Fig. 10. *Acidia seychellensis*, n. sp. × 20.

A single female specimen of this genus was collected; generically it agrees well with the British species but the eyes occupy a little more of the side of the head.

Head. Eyes with a very few almost invisible hairs. Top view:—frons slightly widening from vertex to forehead, chestnut brown, slightly shining, the short strips on which upper f. o. stand and the black ocellar area together with a small depressed triangle in front of it are quite shining. The duller part is very minutely shagreened and has scattered tiny hairs in front. Three pairs crossed front f. o., the corresponding absolute eye-margins with a row of tiny hairs along them; two pairs parallel but backward-bent upper f. o. Long slightly conv. i. v. just at eye-angle on vertex; div. o. v. just on hind eye-margin; roughly forming a triangle with these is a small bristle behind the head: in this view the long post-orb. row can be seen running up to the

outer v. b. The p. v. parallel and rather bent backwards, inserted on the sloping back of vertex, the distance between each and the next i.v. is the same. Oc. fine, subparallel, inserted each side of the large front ocellus. Front view:—face brown, same width as frons to just below 2nd antennal joint, then widening uniformly to jowls. The lunular crescentic furrow continued round and demarcating eye-margin from face. A very shallow broad triangular keel forms two shallow foveæ. Antennæ almost touching at base, divergent. Side view (Plate 19, fig. 6):—antennæ orange, the 2nd joint is very bristly inside, outside smooth, neat bordering row of bristles below, a spine about midway above; 3rd joint long, straight upper and curved lower profile; arista with pale pubescent lower joints, darker flagellum with short hairs all round in no definite rows. The narrow front jowls with short bristle below, orange; hind ones deeper, universally bristly with one long spine: hind head below black and bristly. Palpi flattened laterally, very bristly below, orange: tongue the same. The shining clypeus is visible.

Thorax. Dorsum, pleura, scutellum and metanotum all shining black, the dorsum covered with fine hairs: the chætotaxy as *Acidia cognita* though possibly not relatively so strongly developed: there is a pair of d. c. rather forward, being roughly in a line with wings; long prescut., h., n. p., prescut., a large post-a.; the pleura has fine sparse bristles, but the pinning renders the macrochetes doubtful though a sterno-pl. can be seen. Scutellum a blunt shallow triangle, the terminal bristles crossed at tip, the large side pair ending off nearly level with them.

Wings, as Fig. 10, with brown-black coloured marks, 1st and 3rd veins bristly above.

Halters with black knobs and orange stalks.

Legs. All the coxæ and femora black; the rest yellow-orange, except that the basal half of the hind tibia is blackened. Front femora with the two hind rows of spines and the long lower row: middle with long spinous hairs; hind with similar hairs, more conspicuous below at base, and one or two at tip on top. Hind tibiæ with longish spiny hairs, a somewhat regular row dorsally.

Abdomen. Black, pointed, with adpressed hairs and long marginal bristles, ovipositor not extruded.

Size, 4 mm.; wing, $3\frac{3}{4}$ mm.

Locality. Seychelles. Silhouette: plateau of Mare aux Cochons, IX. 1908.

18. *Acidia* (?) *ocellata*, n. sp. (Fig. 11 and Plate 19, figs. 7, 8).

There is a single specimen of a fine Trypetid from Marie Anne Island which does not seem to agree well in its characters with any of the well-known genera. Its general affinities seem nearest *Acidia*, and hence it is provisionally referred to that genus pending a revision of the whole family. The description will therefore be given in full.

Head. Eyes under high power with a very few fine scattered hairs: frons widening a little from back to front. Top view:—frons, vertex (as well as hind head) entirely pale orange, dull except for the ocellar area and the upper and lower eye-margins, which are shining: the latter have about 3 irregular rows of fine bristles. On them stand the three lower crossed f. o. pairs, the middle one being crossed almost

half-way; the two upper f. o. pairs are sub-parallel and bent backward. V. b. on distinct pits, the i. v. very long, sub-parallel and bent a little backward, inserted just behind upper eye angle, the o. v. long and div., inserted in a line with post-orb. row, a little remote from eye: the latter row is seen to be stout and consists of bristles alternately longer and shorter. Well below on back of head is a smaller bristle forming a triangle with the v. b.; the p. v. are shortish, stout, and well below vertex, they diverge. The oc. are stout, div. and are inserted one each side of the front ocellus. There are small scattered bristles on the frons. The lunular arch is demarcated from the frons by a red shallow suture. Front view (Plate 19, fig. 7):—much as last species, but the central “keel” is merely a broader triangular swelling merging below with the lip. Side view (Plate 19, fig. 8):—the pale orange antennæ have the second joint bristled inside, bare outside, with marginal bristle row there and below, a long spine on base at tip; third joint parallel-sided; the arista quite bare under a high power. The jowls are pale orange, hairy and bristly below with a long stout spine just behind lowest point of eye. The head immediately behind eyes is bare, but bristly behind. Palpi orange, flattened, bristly below. The tongue is retracted in the specimen.

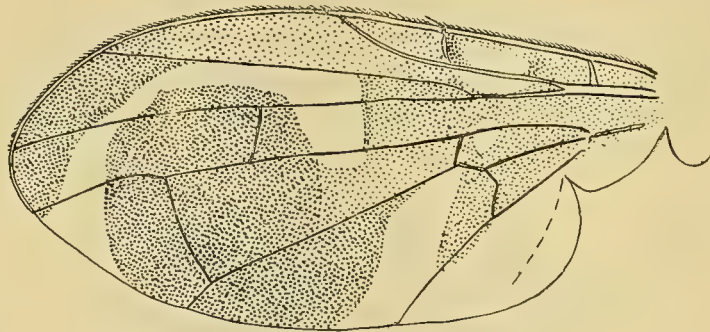


Fig. 11. *Acidia* (?) *ocellata*, n. sp. $\times 13$.

Note. The specimen has an extra f. o. b. on the left side in front of the normal front bristle.

Thorax. Orange, and covered with very many irregularly arranged dorsal bristles; the pleuræ, &c. yellow. A pair of d. c. further behind than last species, large prescut., very strong h., n. p., presut. low down, three strong alar (two on edge of disc, one in line with prescut.). Scutellum with strong basal bristles near angle, the terminal pair is broken off, metanotum yellow-orange. There is a strong st. pl. br.

Wings, Fig. 11. The striking feature about the wings, as seen without a lens, is the two large blackish ocelli occupying a large part of the wing, and bordered almost all round by a whitish border; the rest of the wing is suffused with honey coloured pigment, which borders the costa and forms a rough W-shaped mark behind the black spot. Under the microscope the costa is seen to be very bristly; a strong spur occurs at the breach by the auxiliary branch; the 1st vein is stoutly bristled, as is the third from its junction with the second to a point about $\frac{2}{5}$ the distance between the cross vein and the end. The anal cell is well pointed. The small calypters are beautifully bordered with dark margins and silky hairs. The whole hind wing-margin

is also very neatly ciliated in black. Halteres orange. Legs all orange: front femora with the usual two back rows of bristles and a very stout row of 6 bristles below: the coxæ have two very stout spines and a few others: tibiæ spurred. The middle femora are hairy; the tibiæ have a row of 5 stout though comparatively strong spines in the middle part (somewhat nearer base) on tip, a crown of orange spines with one excessively strong black one below; all the tarsal joints have the curious stout spines at the basal sides of each joint that are found in *A. cæsius* (Harris). The hind femora have 3 or 4 stout spines on the apex in front, tibiæ with a central row of some 7 spines in front: the long 1st tarsal joint has beautiful golden hairs on it: each joint has two basal spines, smaller than those on the middle legs.

Abdomen. Orange at base merging to black towards the end of 2nd segment: 2nd segment very long, next two about equal, last about as long as previous two; triangular in profile. The globular hypopygium is orange: it is complex, and in profile can be seen a pair of upper scales and a pair of lower more pointed ones.

The last segment of the abdomen bears a border of very strong downward pointing spines; the rest of the abdomen is covered with short bristly orange hairs, the marginal ones being scarcely longer.

Size, about 7 mm.; wing, about $6\frac{1}{2}$ mm.

Locality. Seychelles. Marie Anne Island, from forest, 2. XII. 1908.

TEPHRITIS Latreille, Hist. Nat. Crust. Ins., xiv. (1804), 389.

19. *Tephritis aldabrensis*, n. sp. (Fig. 12 and Plate 19, fig. 9).

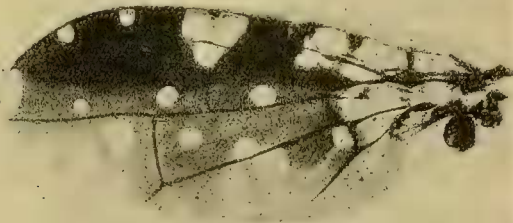


Fig. 12. *Tephritis aldabrensis*, n. sp. × 20.

Head. Eyes bare. Top view:—frons orange-yellow, rather shining but minutely granulate: margins and ocellar area and vertex a little greyer. Lunule demarcated by a red arc. Frons quite parallel-sided: in this view the 1st and 2nd joints of antenna are seen to be very bristly, the former with 3 or 4 longish pale bristles, the latter with many small black ones, chætotaxy normal, viz. 3 pairs rather con. front f. o., two pairs parallel and backwardly bent hind f. o., the pair nearer vertex being smaller and crossing the very stout parallel upright i. v.; o. v. smaller, white, p. v. the same, parallel and well down head; between the o. v. and p. v. is another similar bristle, and these bristles (viz. o. v., p. v., extra pair) are continuous with the very stout post-orbital row (extending half-way down eyes) and like them are white.

The oc. are very long and arched, div. and inserted one each side of front ocellus. There are practically no tiny bristles on the head. Front view:—face yellowish-white, no foveæ or keel; antennæ orange, the overlap of 2nd joint swollen inside, the 3rd joint long, oval and rounded at tip, the arista with pale base and darker flagellum, the latter just perceptibly pubescent. The antennæ are just separated at the base by a narrow projection from the lunule over the antennæ. Side view (Plate 19, fig. 9):—mouth margin projecting somewhat, the sides bristly as is edge of jowls and the swollen hind jowls; the latter have a long bristle on them. The post-orb. row can be seen to have small bristles between the large ones. Palpi flattened, pale yellow and hairy.

Thorax. Ground colour dark and covered with grey pollen in a good specimen, and also dorsally with tiny white bristles, which are, however, long just over the scutellum, chætotaxy normal, being all very long: two d. c., one just behind cross suture, one a little further than half-way from front pair to end of thorax. A very stout bristle and a clump of small stubbly ones on the orange humeri, large and small h., presut., two s. a., one long and smaller ones by the mesopl. suture, one st. pl.; the pleuræ all with bristly hairs except in front. The bare pollinated scutellum has a rather small terminal pair, crossed half-way, and excessively long parallel side pair. The wings are maculated as in Fig. 12, the darkening being bright brown, paler towards the hind margin. Halteres yellow with orange stalks. Legs all orange; the lower row of bristles on front femora very stout and long.

Abdomen. Brown, slightly shining, covered with pale hairs. The ante-penultimate segment in the male is nearly as long as the three previous ones: in top view it is bordered by some 5 or 6 long pale bristles. The hypopygium below the last segment is shining chestnut brown. The terminal segments of the female are shining black as is the long dorsally flattened ovipositor sheath, which is longer than the rest of the abdomen.

Size, $3\frac{1}{2}$ mm.; wing, 3 mm.

Locality. Aldabra, 1908 (Fryer).

RHABDOCHÆTA de Meijere, Bijdr. t. d. Dierkunde, xviii. (1904), p. 109.

20. *Rhabdochæta spinosa*, n. sp. (Fig. 13 and Plate 19, fig. 10).

A considerable number of an insect occurred which seems to fit in best with de Meijere's genus, though it will be seen that the characters do not agree absolutely with his definition of the genus.

Head. Eyes bare. Frons about as broad as long, nearly parallel-sided, the ridge of the vertex from eye to eye very sharp; orange in front, greyish-yellow round ocellar area and eye-margins: lunular arc with flattish ridge and linearly darkened: ocellar spot black. The bristles are of two characters, (α) long darkish ones coming gradually to a point (viz. the two main front f. o. and the inner v.): the others (β) are white, long or short, but roughly cylindrical up to the tip where they attenuate much more suddenly, or are even greatest in diameter about half-way. There are two long

true (α) front f. o., upright and conv. to centre; in front (above a black side spot on the face) is an auxiliary bristle (type β). Two very slightly div. and backward bent hind f. o.: the distal one is practically of type α and is inserted inside the proximal front f. o. so that the distal hind f. o. and proximal front f. o. are nearly in the same transverse line: the proximal pair of hind f. o. is of type β . I. v. of type α , very long, upright though slight conv. and bent back, inserted close to eye and absolutely on the vertical ridge. What represent the outer v. are of type β and are a little down the eye orbit pointing back and separated from the stout post-orb. row (of type β) by a few tiny black bristles. P. v. of type β , below vertex, almost touching at tip, bent up. Between each of these and the o. v. is another bristle of type β . Oc. very long, of type β though more pointed, straight, div., inserted practically in a line with front ocellus but with bases a little further from it than hind ocelli are from one another: the oc. are so long that they cross the hind f. o. at the ends. On the frons about $\frac{2}{3}$ down from front ocellus is a parallel pair of type β projecting over the forehead. Apart from the macrochetes the frons is bare. Front view:—face very gently arched, the eyes approach nearest about $\frac{2}{3}$ down from antennal base to mouth margin. Antennæ touch at base and in this view the 2nd joint is seen to have a small internal finely bristled flap over the base of 3rd. The mouth margin is much curved in outline with the upper lip just projecting bluntly from the curve: face all yellow except the side margins of mouth which are brown lined. In this view the black spots between

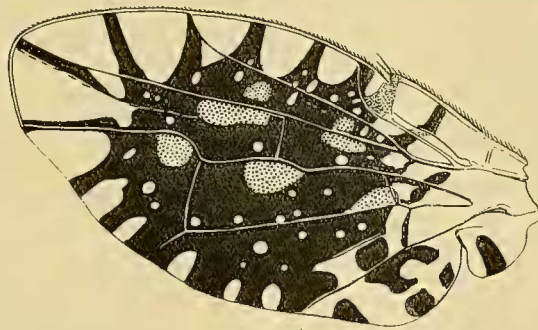


Fig. 13. *Rhabdochaeta spinosa*, n. sp. $\times 25$.

the eyes and antennal bases on each side below f. o. are well seen, as are the blackened compressed bristly palpi. Side view (Plate 19, fig. 10):—the triangular yellow projection of frons, with the above mentioned spot, is very prominent: the profile is concave and the projection of the lip well seen. At lower angle of jowl is a bristle of type β followed by a pointed one of type α . The jowls are yellow merging into the blackened back of head, the lower part of latter with pale bristles. The antennæ are orange, 2nd joint a little greyer: below, the 2nd joint has a fringe of pale marginal bristles but is practically bare on the outside (see however above, front view); 3rd joint very long, roughly pyramidal with pointed tip, pubescent and darkened at tip: arista with orange basal joints and paler flagellum: it is closely covered with moderately long pale hairs. Palpi as above, tongue orange, hairy at tip.

Thorax. In good specimens the colour is pale grey all over except that the sides are a little darker. When this grey pollination is rubbed off or otherwise spoiled, the ground colour is black with the humeri and a patch between them and the wing bases distinctly orange. The dorsum is rather irregularly clothed with small bristles of type β arising from scattered tiny irregularly distributed black dots. These small bristles are larger on the prothorax and a pair just on edge behind head is very distinct. The ground colour shows to a more or less extent through the orangish grey pollen, and one may often distinguish it to form indistinct thoracic lines, *e.g.* one from the above mentioned pair of small bristles in front down to the level of the first d. c. pair. The macrochetes stand on dark spots; these are: 2 pair d. c., the front just behind cross suture, h., n. p., presut., 3 s. a., also st. p. and mesop. All these are of type *a*. Scutellum as thorax with two large div. discal bristles on blackened spots, a small black crossed terminal pair not on spots: sometimes there are in addition one or two small scattered bristles of type β . The outline of the scutellum is a shallow rounded triangle. The metanotum is large, two ridged, grey on top and blackened beneath.

Wings as in Fig. 13. They have the remarkable "bullæ" characteristic of this and the related genera, the position of these being shown in the figure. The general scheme of colour is as shown in the figure, and is black. The venation is not typical. In de Meijere's description and figure the distances on the costa between the end of the second vein and that of the 3rd is about equal to that between the 3rd and 4th. In this species, the second vein meets the costa roughly midway between 1 and 3, and is curved up; also, the 4th vein is not straight, but is remarkably undulate as shown. The dotted line in Fig. 13 just below the third vein shows where a fold occurs (the "sulcus cubitalis" of Girschner, see Kertész, *Ann. Mus. Nat. Hung.*, 1903, p. 358); when viewed from beneath this appears as a well chitinized extra vein. Unlike de Meijere's figure and description (where no discal cross vein is shown or mentioned) that vein is here well developed. The coxal nick and its two bristles are very well developed. The rest of the venation is readily seen from the figure. No bristles occur on any veins. The halteres are clear orange-yellow.

The legs are yellow except for two incomplete darkened rings at the ends of front femora, the whole of mid and hind femora are darkened except at the tips, and there is a dark ring near the base of the middle and hind tibiae. Two upper rows of bristles on front femora all weakly developed, black, and with 4 bristles each: a lower row of 3 stouter bristles, the first black, the next two white; terminal spine to mid-tibiae, no other well-marked bristles.

Abdomen. ♂ darkish grey with silvery hairs; the hypopygium very projecting from below base: last segment bordered with stout black bristles. ♀, last segment forming a flattened sheath about as long as rest of abdomen.

Size ♂, over $2\frac{1}{2}$ mm.; wing, about 3 mm.

Localities. Seychelles. Silhouette; from near Mont Pot-à-eau, ca. 1500 feet, VIII. 1908. Mahé: from near Morne Blanc, X.—XI. 1908; Cascade Estate, ca. 800 feet, 1908—9. This species was swept from grass in forest-clearings &c.

Sepsidæ.

SEPSIS Fallen, Dipt. Suec. Ortal., 20 (1820).

21. *Sepsis rufa* Macq., Dipt. Ex., Suppl., iv. (1850), 296. 3; Becker, Mitt. Zool. Mus. Berlin, ii. (1903), p. 144.

There is a long range of a variable species which all agree very closely in the chætotaxy of head, thorax, abdomen and legs: they divide roughly into a large pale form (typical *rufa*) and a smaller dark form, but a few intermediates occur. The sole difference appears to be that the middle femora in the pale form have three stout bristles underneath at middle, while the dark one has only one or two there, and all the bristles are weaker in the smaller form. The front femora and tibiæ agree with the description of Becker (*l.c.*) and with the description given by de Meijere, Ann. Mus. Nat. Hung., iv. (1906), p. 179, and with his figure, *l.c.* tab. II., fig. 11. De Meijere in that paper draws attention to the same fact, namely that *S. rufa* seems very variable in body, leg, and head colour, and also in size, which he finds varies from $2\frac{1}{2}$ to 4 mm.: in all his specimens he also finds the chætotaxy similar.

As far as can be seen without detailed dissection, the genitalia are the same in all the male specimens. On the whole the females are darker than the males.

Localities. Seychelles: from a number of localities, both near sea-level and in the high mountain-forests. Silhouette: near Mont Pot-à-eau, ca. 1500 feet, VIII. 1908; Mare aux Cochons, IX. 1908. Mahé: Cascade Estate, ca. 1000 feet; from near Morne Blanc, X.—XI. 1908; Anonyme Island, I. 1909.

22. *Sepsis albopunctata*, n. sp. (Plate 19, fig. 11).

The collection includes three specimens of a male with pale white spots at the tips of the wings, and indistinct black spots by them, which do not agree with any of the published descriptions.

Head. Bright shining yellow; on vertex, upper eye-margins, space round each ocellus, a broad line below and above, brown orange. Antennæ yellow with usual dorsal bristle on 2nd joint, and orange arista. Chætotaxy normal, viz. oc., post-v., inner and outer v.; there is a group of bristles each side on back of head between neck and eye-margin, and the usual clump just over neck. Three well-marked vibrissæ followed by a row of equal hairs on the mouth-margin behind them.

Thorax. Shining orange yellow, pleuræ somewhat lighter, a silvery patch on upper half of sternopleura. Two d. c., the line of these continued to the front by a line of bristles, which are much more distinct than usual: acrostichals in two irregular rows of the same character as last bristles; other bristles normal. There is a notable dark orange line from humeri to wing base along the suture.

The wings have quite normal venation: 2nd vein slightly turned up at tip, 3rd and 4th parallel: a terminal white spot (involving the tip of 3rd vein) between 4 and 2, a palish dark spot just over the tip of 2, bounded by the pale spot in front, and extending downwards to $\frac{2}{3}$ the distance between 2 and 3. The discal cross vein somewhat beyond the

middle of cell; the distance between cross veins on 4 slightly longer than abbreviated end of 5 beyond the last cross vein. Discal cross vein about half length of last one. Halteres yellow, brown stalks. Legs all yellow except the darkened terminal two or three tarsal joints. Front pair (Plate 19, fig. 11):—femur with a hump on middle carrying two large and several small thorns, proximally two stout spines and smaller one, a few hairs behind these; bristly on tip, one bristle near distal one-third is bigger: tibia bent and distorted, proximally three bristles, then a small hump with four bristles on it. When viewed in profile, the ventral side of tibia is seen to be excavated, principally near the hump, so that it can receive the femoral hump to a greater or less extent; a minute preapical bristle: tarsi with first joint strongly pectinate below, especially at base. Middle pair:—femur with one bristle on outer side towards middle; tibia with three bristles on hind edge (as stretched out) from middle towards tip, preapical, two small terminal, one beneath about middle; tarsi, first two joints with double row of side bristles pointing backwards. Hinds legs; femur with one outside bristle two-thirds from base; tibia clubbed in distal half, a ring of three bristles at middle; tarsi as middle legs.

Abdomen with very humped and knobbed shining yellow second segment, the others purplish shining black, with beginning of petiole and end cavity more orange: second bristled all over, stronger at side: others with smaller sparser general bristles and large bordering macrochetes.

Size, about 3 mm.; wing, about 2 mm.

Locality. Seychelles. Mahé: Cascade Estate, 800 feet or over, 1908—9; marshes on coastal plain of Anse aux Pins and Anse Royale, I. 1909.

In addition to the above there are a few specimens of the female of a dark species with white and black spots on the wing.

Localities. Seychelles. Mahé: Cascade Estate, and marshes on coastal plains at Anse aux Pins and Anse Royale, 1908—9.

Micropezidæ.

NEREIUS Fabricius, Syst. Antl., 264 (1805).

23. *Nereius alluaudi* Giglio-Tos, Ann. Soc. Ent. France, lxiv. (1895), p. 366.

There is a long series of a species of *Nereius* which agrees well with the description of this Seychelles species. Giglio-Tos says that one of his specimens had three longitudinal lines of which the middle was much narrower. All the present specimens possess the three lines, the two outer and broader ones of which extend from the calli to the scutellum: the middle one is much narrower and only extends about half-way down the dorsum. The breadth of the lines varies somewhat in the different specimens.

Localities. Seychelles. Silhouette: near Mont Pot-à-eau, ca. 1500 feet, VIII. 1908; Mare aux Cochons and forest above, over 1000 feet, IX. 1908. Mahé: Forêt Noire district, and high forest of Morne Blanc and Pilot, X.—XI. 1908; Cascade Estate and forest above, ca. 1000 feet and over, 1908—9; Mare aux Cochons district, 1000—2000 feet, I.—II. 1909; 1905 (Gardiner); 1892 (Alluaud).

This species is very characteristic of the damp endemic mountain-forests, throughout which it is found.

Drosophilidæ.

DROSOPHILA Fallen, Dipt. Suec., Geomyz., 4 (1823).

Many species of this genus were collected, only two of which can be referred to known species from published descriptions.

The genus is represented by a large variety of forms, some of which might well be considered subgenera or even genera, but as these are represented by single species it is thought best to merely indicate such possible divisions.

For convenience of reference to what follows the species may be grouped as follows:—

I. Species with costa to third vein (*Leucophenga* Mik.).

sericea, p. 326.

grossipalpis, p. 328.

II. Species with remarkably constricted waist and short wings.

**notabilis*, p. 329.

*III. Species with a remarkable slit to the costa, the end provided with spines and bristles.

fracticosta, p. 329.

nigerrima, p. 331.

nigrobrunnea, p. 332.

IV. Species like *Chymomyza*:

**punctiscutellata*, p. 333.

V. Species with remarkable transverse eyes:

**aberrans*, p. 334.

VI. Species with remarkable spines on front tarsus:

**spinipes*, p. 336.

VII. Species with curious curled hairs on front legs:

**hirtipes*, p. 337.

VIII. Species with marmorated thorax.

punctulata Loew, p. 339.

jucunda, p. 339.

*IX. Species with a distinct shining vertical triangle.

fnitima, p. 340.

caliginosa, p. 341.

pallipes, p. 342.

triangulifer, p. 343.

rufuloventer, p. 344.

X. Species of ordinary pale form recalling *melanogaster*.

nasuta, p. 346.

melanogaster Mg., p. 347.

similis, p. 347.

It is highly probable that the species and groups marked thus * should be raised to generic or at least subgeneric rank, but as so few specimens are available, this course is not adopted.

24. *Drosophila sericea*, n. sp. (Fig. 14 and Plate 19, fig. 12).

A very handsome species in which the male has a very silvery thorax.

♂ Head. Eyes bare, red. Top view:—Frons nearly parallel-sided from the vertex downwards, a little over one-fifth of maximum axial breadth from eye to eye: creamy white; the area within the ocelli is grey with silvery reflections: ocelli bright red. The pair of lower f. o. are inserted nearly midway on the frons and point forward: the first pair of outer backwards-pointing f. o. are inserted nearly level with the former, the second pair roughly midway between them and the vertical bristles. These f. o. bristles are lower down the eye-margins than in the European species *L. maculata*: approximated i. v., div. o. v.; a small pair of deeply crossed p. v. b., stout oc.; a row of minute crossed bristles on the centre of the frons; a row of similar bristles below front f. o., so that it can be looked on as a continuous row of fine orbitals. Front view:—Face coloured as frons, slightly diverging to insertion of vibrissæ, practically flat in section, a strong pair of vibrissæ. Side view (Plate 19, fig. 12):—Back of head darkish grey; the post orb. continuous round mouth-margin; a stout bristle on lower hind angle of jowl. Antennæ with the just visible first joint and the second joint coloured like the frons, slightly bristled, second with one longer outer dorsal b.; third joint parallel-sided with rounded tip, finely pubescent, slightly darkened; arista pale for first half, then darker: six upper rays, three lower rays (1st near middle), terminal ray: on the under face of the plane of the arista is a row of tiny rays, denser for the proximal third and then extending more sparsely to nearly the end*.

Palpi blackened and shining, tongue yellow, rugose at the tip: the mouth opening in vertical view is long and narrow, and the margin is blackened laterally.

The thorax and scutellum are both brilliantly silvery in good specimens, the ground colour beneath being orange; the dorsal surface is covered with small bristles. There are two d. c., the front pair the smaller, small prescut., one h. and a few smaller bristles on humeri, two n. p., three bristles over wing, the p. a. large. The small thoracic bristles can be looked on as forming 8 or 10 acr. rows between the d. c. lines. Scutellum slightly arched, almost circular in profile, quite bare, with two large side bristles on large grey ill-defined spots, and two stout crossed terminals. Pleura somewhat orange-yellow with a darkened irregular stripe from the metanotum to the sternopleura. Two large st. p. Wings as Fig. 14, veins brown, the costa darker: the latter extends to 3rd: a fine dense black short bristly ciliation extends to about half-way between the ends of 2 and 3; it here becomes sparser, and between that termination and the end of 3 are four or five minute black tubercles inserted just on the lower edge of the costa. In macroscopic view the costal margin is distinctly infuscate. Halteres with white knobs, and yellowed stalks. Legs entirely pale yellow-white except that the mid and hind knees are narrowly darkened. The usual preapicals

* This inner row of small rays is a useful character: it varies in strength of ray, and in number, and is occasionally quite absent. It is plainly visible in *L. maculata*. It will likewise be found in other insects: for example, in *Lonchæa plumata* (see last paper, *Trans. Linn. Soc.*, Vol. xv, Part 3, 1912, p. 303) it is almost as strong and evident as the upper and lower rows and is complete from end to end.

on hind and mid tibiæ, front femora with a few longer fine bristles beneath and outside.

Abdomen. The ground colour is yellow, the second segment is bristly only on its upper angles and margins and is silvery; third pale yellow, rather silvery, with long marginal and a few scattered discal bristles; fourth with three large black marks, the side ones extending right over the edges and from front to back, the middle also extending from front to back, hence the orange-yellow ground only shows as two rather irregular dark orange lines; the three black bars are nearly equal in width: the fifth segment has also three marks, the middle extending right across, the side ones sometimes only reaching over the side margins and not front and back: sixth segment with a small dark central spot. These last three segments have long scattered dorsal and longer marginal bristles.

♀ The female differs in its colour scheme as follows. The thorax is more or less silvery in side view on tip, but always quite visibly so on the sides of the thorax, and on the upper part of the pleura. The dorsum is brownish orange, darkish, with two dim darkenings forming side stripes along the d. c. lines, and darkened again before scutellum. The latter is darkened except at the tip which is white.

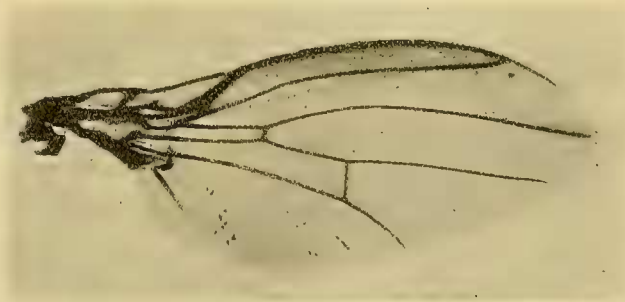


Fig. 14. *Drosophila sericea*, n. sp. × 25.

The abdomen has its second segment creamy with large dark triangular spots occupying the sides and most of the lower margins, but well separated distally on the centre line. The next two segments have the orange ground much covered with black somewhat shining colour forming two large side and one large middle mark, both extending from margin to margin: these segments could also be collectively described as being shining black with two orange stripes separating three broader black ones. The fifth segment has three spots like the male, as has the sixth segment, the last has two large side spots with a narrow line between.

A certain amount of variation occurs, the blackening being variable in extent in both sexes.

Size, $2\frac{1}{2}$ mm.; wing, $2\frac{1}{2}$ mm.

Localities. Seychelles. Silhouette: forest near Mont Pot-à-eau, ca. 1500 feet, VIII. 1908; Mare aux Cochons, IX. 1908. Mahé: Cascade Estate, ca. 800 feet and over, 1908—9; Morne Seychellois, over 1500 feet, II. 1909; high forest of Morne

Blanc and Pilot, 1908 ; Mare aux Cochons district, over 1000 feet, 1909. Throughout the damp endemic mountain-forests.

25. *Drosophila grossipalpis*, n. sp. (Fig. 15 and Plate 19, fig. 13).

♀ Head (Plate 19, fig. 13):—very much like last species in all essentials of bristles and structure ; frons all bright orange-yellow, finely rugose longitudinally for the proximal two-thirds : the ocelli red with a grey area inside. Face and orbits the same as frons ; back of head rather darker. The antennæ are also yellow-orange. Palpi orange, very stout, flattened in vertical plane. Tongue orange.

Thorax. All rather dull orange, chætotaxy as last species. Pleura rather lighter orange including the humeri : a brown ill-bounded spot below the sternopleural bristles. Scutellum, etc., coloured as thorax, the same in shape as the last species.

Wings as Fig. 15, blackened on costa. Halteres orange. Legs all yellow-orange.



Fig. 15. *Drosophila grossipalpis*, n. sp. × 20.

Abdomen. 1st segment orange, 2nd all black (except just at front margin in centre) extending well over sides ; 3rd all orange with darker spot on centre line near distal margin and a much smaller brown spot near the proximal margin ; 4th, mid line yellow-orange with similar central spots as the 3rd, then entirely black well over the sides, then orange and finally (on belly side) black ; 5th orange with two small oval black side spots ; 6th orange. The whole is covered with black discal bristles and long marginal bristles.

The central spots on 3rd and 4th segments are often almost absent or very small.

There are three imperfect specimens of what may be the male of this species : it agrees in all respects with the females described above, but the abdomen is entirely black, the narrow margins being a little paler : the specimens are in no way silvery or sericeous.

Size as last species.

Localities. Seychelles. Silhouette : near Mont Pot-à-eau, ca. 1500 feet ; Mare aux Cochons, highest forest, ca. 2000 feet. Mahé : near sea-level, Long Island, VII. 1908 ; also throughout the endemic mountain-forests (Cascade Estate ; Morne Seychellois, over 1500 feet ; Mare aux Cochons district, over 1000 feet). Félicité : from drier type of forest near sea-level, XII. 1908. Praslin : XI. 1908, one of the three ♂.

26. *Drosophila notabilis*, n. sp. (Fig. 16 and Plate 19, figs. 14, 15).

A remarkable form with constricted waist, small wings, and a very peculiar frontal marking.

Head. Eyes finely and sparsely pilose. Top view (Plate 19, fig. 14):—frons very broad, shining, with broad eye-margins and a remarkably demarcated central area as figured. This central area is translucent greyish bordered by brown-orange, the broad eye-margins are similar in colour. The front f. o. points forward, the hind one outwards and backwards, i. v. convergent, o. v. divergent, p. v. absent. The oc. stand nearly upright, parallel and bending forward at the tip. Front view:—the face is shining orange with an elongate knob between antennæ.

Side view (Plate 19, fig. 15):—the eyes are rounded in front; the mouth projects somewhat; the antennæ are orange, 3rd joint paler: 2nd joint swollen and nearly as big as the 3rd with a fine short bristle in front; the 3rd is pubescent, especially so at tip, the arista with six upper, three lower and a terminal ray, the inner row is evident though sparse.

Fine single vibrissæ, a few bristles on the hinder jowl; orange hind head, with fine post-orb. row. The clypeus above the palpi is very large indeed; palpi darkened, club-shaped, hairy; tongue darkened and hairy.

Thorax darkened orange. Two d. c. with fine small rows extending in a line to the front. The acr. bristles indistinct, two rowed. No sign of humeral bristles, one behind the humeri which may be a single notopleural; two close together on the side above and just before base of wing. Scutellum tawny-orange, crossed terminal bristles, a very minute basal pair.

Wings as Fig. 16, translucent with brown veins. Halteres with longish white heavy and bituberculated darker stalks.

Legs. Yellow, bristles very few; one inner outstanding pre-apical on front femora; pre-apical and 2 or 3 small crowning bristles on the mid tibia: the rest are not clearly visible owing to the state of the specimen.

Abdomen with much constricted waist, the first 3 segments dull orange, the last segments shining black, all sparsely bristled, the marginal bristles the longer.

Size, over 2 mm.; wing, under $1\frac{1}{2}$ mm.

Locality. Seychelles. Mahé: marshes on coastal plain, Anse aux Pins and Anse Royale, I. 1909; Anonyme Island, I. 1909.

27. *Drosophila fracticosta*, n. sp. (Fig. 17 and Plate 19, fig. 16).

This (and the next two species) have a remarkable break at the end of the first section of costa; this ends in a swollen projection of the costa which is somewhat spear-shaped, black, and very bristly.

The present species must be near to *D. gratiosa*, de Meijere (Tijdschr. v. Ent., 54, 1911, p. 404) with which it agrees fairly closely in general facies and in head and thoracic characters, but the abdominal characters are quite different.



Fig. 16. *Drosophila notabilis*,
n. sp. $\times 30$.

♀ Head. Eyes bare. Top view :—frons slightly narrowing in front, about half width of head at back, dull black from the vertex forward, brown-orange from the forehead backwards, the colours merging in two indistinct boundary lines from ocellar area to outer edges of lunular boundary. Eye-margins broad and shining black from front f. o. to vertex and back of head. Front f. o. sub-parallel and forwardly bent, hind f. o. divergent and backwardly bent, inserted rather close together; a row of fine bristles extends from latter to forehead, the first, between the two f. o., being the longest. Convergent i. v., divergent o. v., p. v. crossed at tip, oc. inserted between basal and front ocelli, long and divergent. Post-oc. rows evident. Front view :—antennæ touching basally; a well-marked snout or keel extending from the base of the antennæ to two-thirds down face, widening to the end which has a rounded margin: face black, with sparse pale orange pollen, the snout much more orange, clypeus prominent. Side view (Plate 19, fig. 16) :—antennæ darkened orange, 2nd joint with a large basal bristle and a smaller bristle in front; 3rd joint silky, arista orange with darker rays, the top row with 5 progressively smaller rays; bottom row with one ray between 3 and 4 on top; one end ray, a few fine rays of the inner row. There is a stout vibrissa close to the eye-margin followed by a row of smaller ones on the darkened jowl; hind jowls orange with 2 or 3 bristles; palpi clubbed, flattened, black, with a few short bristles: tongue more orange.



Fig. 17. *Drosophila fracticosta*, n. sp. × 20.

Thorax. Dorsum, scutellum, and pleura above a line from the wing base to below the humeral calli and the metanotum, all intensely black; the dorsum very shining, other parts duller, humeri slightly orange in tone, duller; scutellum minutely granulate: lower pleura and sternum entirely pale yellowish-white. Only the last pair of d. c., two h., n. p., three bristles over wing base, one large and one small st. p.; the dorsum all covered with fine bristles; the acrostichals form about eight rows between d. c., but are entirely the same in character as the rest of the small bristles. The scutellum is rounded in outline and swollen in profile; the terminal bristles just cross at tip, small side bristles inserted somewhat nearer the terminal bristles than to the base.

Wings, Fig. 17, yellow with yellow veins: the costal slit is very marked, and ends in a black callosity provided with spines, and turned over so as to lie roughly perpendicular to the plane of the wings. Costa to 4th vein. Halteres with black knobs and pale stalks. Legs entirely whitish-yellow: the front femoral rows weak, one spine at end of middle tibia.

Abdomen. 2nd segment whitish-yellow with black margins wider at sides; 3rd black with two faintly defined transverse elongate marks each side of the centre line; 4th black with two large roughly semicircular pale spots with their diameters on the base of the segment, distal margin narrow and pale; 5th similar but with smaller elongate spots; 6th black with a central pale line which is widest proximally; genital segments pale. In side view the whole of the abdomen appears black. The belly is pale on the centre line. There is a small amount of variation in the exact shape of the spots and amount of orange on the 3rd segment.

Size, about $2\frac{1}{2}$ mm.; wing, about $2\frac{1}{2}$ mm.

Localities. Seychelles. Mahé: Cascade Estate, at or above 800 feet, 1908—9. Praslin: Côtes d'Or Estate, XI. 1908.

28. *Drosophila nigerrima*, n. sp. (Fig. 18 and Plate 19, fig. 17).

This is close to the last in many structural points, but is remarkable for its almost entirely black colour and its coriaceous texture.

Head. Eyes bare, colour entirely black, except for the brownish antennæ and lighter face. Top view:—frons dull black and finely granulate, except for the ocellar area, a line from it to forehead, and the broad eye-margins, which are shining; the frons narrows slightly from behind to the front; sub-parallel front f. o., slightly divergent back f. o., the usual fine row of bristles continuing the latter to forehead, the first (between the f. o.) being the longest of them; strongly convergent i. v. nearly touching at tips, divergent o. v.; p. v. directed backwards, nearly meeting at the tips, inserted just below the vertex; divergent oc. on the ocellar triangle. Front view:—antennæ just separated at base by the beginning of the facial keel which widens downwards in a uniform manner to about three-fifths of the depth of face. The face is all dark except that the snout formed by the keel is paler than the rest especially on its side surfaces. The black prelabrum is very evident. The palpi are included, so cannot be described. Side view (Plate 19, fig. 17):—the 3rd antennal joint is brownish and pubescent; 2nd joint with a well marked spine on tip and a much smaller curved one in front; arista with 4 top, 2 bottom, one terminal ray: some 3 or 4 sparse rays of the inner row are visible. Convergent vibrissæ with a following row of fine bristles; hind jowls with a few longer bristles. The post-orb. row is present, but the bristles are not quite so evident as in most cases.

Thorax entirely black, slightly shining, dorsum finely punctulate and uniformly covered with very short adpressed hairs: the last pair of d. c., two smallish h., n. p., small presut., p. a., one larger and one or two smaller bristles over the wing, no acr.; pleural bristling not visible owing to the position of the single specimen. Scutellum more velvety black, rounded in outline and profile; crossed terminal, and two smaller side bristles, nearer the terminal than base.

Wings as Fig. 18, smoky with dark-orange veins; costal break well marked, black, spiny, and turned up perpendicular to the wing-plane. Costa to 4th. Halteres dull brown-orange with suffused tips. Legs black except for somewhat orange knees

and tarsi, a moderately developed lower front femoral row of bristles, stout terminal spine on the middle tibia.

Abdomen. Black, in dorsal view the following spots can be seen: on the second segment, two indistinct silvery patches at the upper angles, which are rather bristly on the sides; 4, 5, and 6 have each two pale silvery spots, transversely elongate, with the front border coincident with the proximal margin, the curved lower boundaries extending to about one-third the segmental breadth; the spot on the 6th extends more over the side margins, and that segment is more greyish black than the others. All the segments except 1st are bristled dorsally and marginally, the latter bristles being the longer. In side view two inferior silvery spots can be seen on edges of 2nd just below the upper angles and two inferior round silvery patches on 3rd (which is immaculate above), these are nearly as big in diameter as the segment's breadth. A further silvery patch can be glimpsed on the belly of the 4th segment.

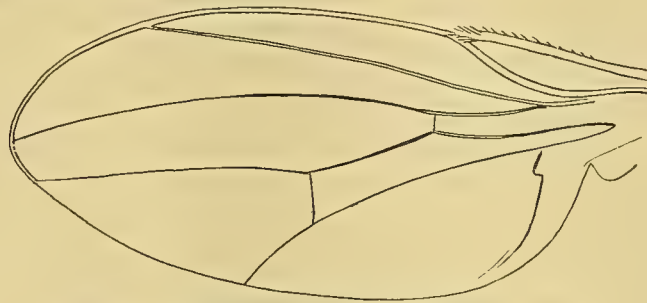


Fig. 18. *Drosophila nigerrima*, n. sp. $\times 30$.

Size, 3 mm.; wing, 3 mm.

Locality. Seychelles. Mahé: a single specimen, Cascade Estate, at or above 800 feet, 1908—9.

29. *Drosophila nigrobrunnea*, n. sp. (Fig. 19 and Plate 19, fig. 18).

This is the 3rd species with a well-marked costal slit and swelling.

There are but three specimens, one headless, and one gummed which has consequently lost its proper colouring.

Head. Eyes bare. Top view:—frons dull brown-black behind merging into dull orange over the forehead; ocellar area slightly shining; eye-margins very shining dark brown (there is a slight silvery sheen on the frons in side view). The eyes project much backward, so that the hind margin is very concave. Parallel forward pointing f. o., slightly divergent hind f. o.; the continuing row of bristles from the latter is absent, except for the 1st small bristle between the two f. o.; strongly convergent i. v., smaller straight and divergent o. v.; p. v. behind the vertex, crossed about two-thirds from the tip; rather long divergent oc., inserted between back and front ocelli. Front view:—face dullish grey-orange; antennæ with the large 2nd joints touching at the base; a very well-marked keel between the 3rd joints, which widens gradually till it meets the rather swollen upper lip, being demarcated therefrom merely by a sulcus: two deep antennal foveæ are thus formed. Clypeus evident; darker. Side view (Plate 19, fig. 18):—the head bristles seem rather more adpressed than usual; 2nd joint of antennæ

with a well-marked outwardly divergent tip bristle, and a smaller one outside towards the end: it is orange in colour; 3rd joint suffused darker orange, pubescent; arista with five upper, two lower, one terminal, and two or three sparse inner rays. Vibrissa convergent, followed by an extra fine hair row; a few bristles on the hind jowl: post-orb. row well behind the eyes. Palpi small, very slightly clubbed, orange. Tongue orange.

Thorax. Shining brown-black up to a line extending from below the humeri to the abdominal insertion, paler on the humeri; the pleura and sternum yellowish white. Dorsum covered with fine pale hairs. One d. c. pair, two h., n. p., small presut., three over wing (one being the post-alar), two strong sternopl. Scutellum minutely pubescent, rounded in outline, and swollen and rounded in profile; terminal bristles crossed at tip, smaller side ones fairly near base. The metanotum is well developed in breadth and is shining brown.

Wings as Fig. 19. Yellowish with brownish veins; a little more darkened just below the costal swelling: the slit is well-marked, and ends in a rather rounded upwardly bent black hairy process. Costa to 4. Halteres pale yellow.

Legs entirely yellowish white, lower and hind rows of bristles on the front femora present, the bristles weak: mid tibial spur strong.

Abdomen. Somewhat shining brown-black except that (1) the base is paler and (2) the fifth segment has two large pale yellow spots which occupy the proximal margins of the segment except for about one-third its breadth, and extend in a roughly triangular form over the segment nearly to the distal margin, (3) the sixth segment has its sides yellow: it is more shining than the others. The second, third and fourth segments are about equal in width, the fifth and sixth are nearly twice as wide; genital segments orange-yellow.

Size, just under 2 mm.; wing, just under 2 mm.

Localities. Seychelles. Mahé: Cascade Estate, 800 feet or over. Praslin: Côtes d'Or Estate, XI. 1908.

30. *Drosophila punctiscutata*, n. sp. (Fig. 20 and Plate 20, fig. 19).

This is a single ♀ specimen of a narrow form which has a strong superficial resemblance to *Chymomyza*. Oc. bristles on front of ocellar triangle.

Head. Eyes densely though shortly pubescent. Top view:—frons entirely shining black; with a side light the eye-margins and a long triangle nearly reaching the forehead can be seen to be differentiated by being rather greyer in tone. The frons is about as broad in front as its axial length, and widens in a curved line along the eyes to the vertex. It is concave behind. The ocelli stand out brilliantly as three silvery spots. The front f. o. parallel and forward bent, hind f. o. inserted close behind them, bent back and continued by a row of equal fine bristles to the front. I. v. just off vertex, much conv.; o. v. just at angle of vertex close to i. v., div.; p. v. just on curve of vertex, crossed well below tips; oc. long, div., inserted on frons in front of front ocellus and with bases further apart than

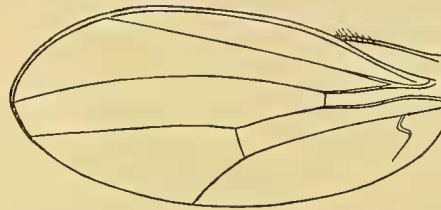


Fig. 19. *Drosophila nigrobrunnea*, n. sp. × 30.



hind pair. A few tiny bristles on ocellar area. Post-orb. row well-developed especially behind v. b. Front view:—the face is whitish brown, deeply hollowed, the antennæ contiguous basally, no central keel. Side view (Plate 20, fig. 19):—the 2nd antennal joint swollen and hairy, bearing a longer dorsal and a front spine; 3rd joint small and pubescent, both joints dark brown; the arista dark with six upper, three or four lower, one end ray and a sparsely scattered inner row. The black cheeks have a long vibrissa at the angle followed by some finer hairs. The post-orb. bristles evident on the black hind head, but rather remote from the orbits. Tongue orange. Palpi black, knobbed, with bristles.

Thorax. Dorsum orange with indistinct lines a bit darker along d. c. line, covered with sparse bristles. In front where it touches the head it is darker. There are two pairs d. c., the first just about the level of the cross suture: h., n. p., two s. a., presut.: pleural bristles destroyed by pin. Scutellum orange in mid line with two large black spots on sides up from base: these bear basally two long bristles, and on their extreme tips are the crossed terminal pair.

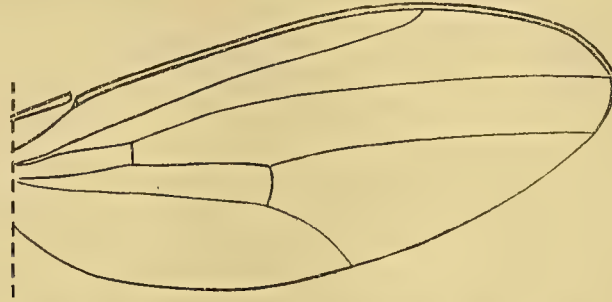


Fig. 20. *Drosophila punctiscutata*, n. sp. $\times 50$.

Wings as Fig. 20; glassy with orange veins; costa well-marked to the end of 3 with fine black ciliation, less marked to 4 with paler ciliation. Halteres with rather elongate orange heads and darker stalks. Legs entirely yellow, 2 or 3 longer bristles distally and behind on the front femora.

Abdomen. Entirely shining black except for the orange ovipositor and the centre line of the belly, bristled discally with longer marginal bristles.

Size, about 2 mm.; wing, about $1\frac{3}{4}$ mm.

Locality. Seychelles. Mahé: Mare aux Cochons district, 1000—2000 feet. I. 1909.

31. *Drosophila aberrans*, n. sp. (Fig. 21 and Plate 20, figs. 20, 21).

This species is aberrant in general facies; the eyes are very oblique, and project backwards behind the vertex: the oc. b. are inserted well outside the ocellar area.

♂ Head. Eyes strongly pubescent, red. Top view (Plate 20, fig. 20):—frons mainly orange, eye-margins slightly greyish yellow, a fine silvery border to the eyes can be seen in some lights extending forward from the hind f. o. The actual vertex, as well as the back of head, are like the eye-margins. The area surrounding the ocelli down to the oc. b. is blackened. The rest of the frons is (as stated above) orange, fairly shining,

and faintly ridged in a more or less longitudinal direction. Head bristles black and strong; front f. o. pointing forward and outward and more remote from eye boundary than usual, the distance between their insertions being about half the frontal breadth at the corresponding cross line; hind f. o. about half-way between the front f. o. and the i. v., pointing backwards; a continuing row of 6 or 7 small bristles to the forehead. Convergent i. v., divergent o. v.; p. v. on vertex behind ocelli, crossed half-way; oc. inserted well *beyond* front ocellus (much in the position shown in Plate 20, fig. 22), divergent and stout. In this view the hind angles of eyes can be seen to project behind the head. Front view:—the head is very broad, about $2\frac{1}{2}$ times as broad as deep, owing to the projecting eyes. The face to the ridged mouth margin is pale with a definite though narrow central keel forming two antennal foveæ: these are slightly darkened at the bottom. The clypeal edge is blackened; palpi clubbed, black, and bristled; tongue yellow and hairy. Side view (Plate 20, fig. 21):—antennæ darkened grey, paler inside, the lighter third joint with white pubescence; second joint with four or five stout spines and smaller hairs. Arista stout, with the inner row of rays very marked and strong; upper row with about four straight rays at base, then three curved ones; lower row with one long straight ray below the upper, two or three curved ones, a terminal one. A pair of very stout vibrissæ followed along the mouth edges by finer bristles. The hind jowls with three or four longer bristles. A well-marked post-oc. row. In this view the eyes are much elongate, the hind facets are perceptibly smaller than those in front.

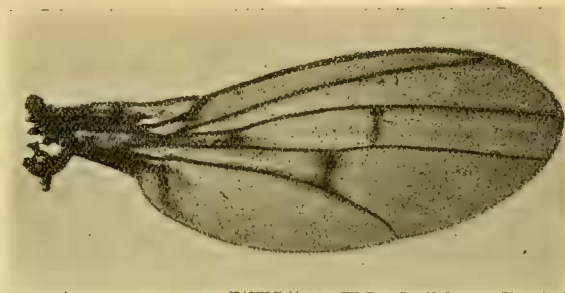


Fig. 21. *Drosophila aberrans*, n. sp. $\times 30$.

Thorax. Brown with orange tone, dull: some sign of sparse paler pollination in front; two ill-defined narrow paler lines along the d. c. lines. The dorsum is covered with small bristles arranged in regular longitudinal lines. Only the last pair of true large d. c.: the fine bristles between the d. c. lines form 6-rowed acrostichals. The humeri bear some 3 or 4 somewhat prominent bristles round the edge. Two n. p., presut., two b. over wing-base, two on alar callus, the inner smaller. The pleuræ below the line from wing-base to point below humeral callus is more or less darkened: the sternopl. has one stout lower and two smaller upper bristles. Scutellum rounded, bare, dull, concolorous with the thorax except for a slightly lighter tip and margins; two stout basal, and two stout crossed terminal bristles. Wings, as Fig. 21, suffused, with brownish veins, the two cross veins being somewhat blackened; costa to 4th, no costal break, but 1 or 2 spines there. Halteres orange. Legs yellowish-white, bristled in rows, the under

row on the front femora uniform from base to tip; the last joint of the front tarsi with rather unusually well-developed pads and claws, and a few long hairs.

Abdomen somewhat variable in colour; usually rather blackened with yellowish margins at the sides only of segments 2 to 4, 5 with a broader continuous yellow proximal margin. The extent of dark and light areas varies a little. There is a large hypopygial knob, black and shining above; just beneath it is yellow and pointed, and has an opposing yellow appendage springing from a previous ventral segment.

♀ The female differs as follows: the third antennal joint is generally much darker, the oc. b. are not inserted as in the ♂, but outside the line joining ocelli (Plate 20, fig. 20): the thorax has a somewhat lighter ground colour, especially in front, so that in one or two specimens we may distinguish a darkened middle line between the inner acrostichal row and another pair of lighter lines followed by darker ones parallel to them. Some specimens were immature. Front feet normal.

Size, about $1\frac{3}{4}$ mm.; wing, 2 mm.

Localities. Seychelles. Silhouette: Mare aux Cochons, IX. 1908. Mahé: near Morne Blanc, X. 1908; Cascade Estate, 800 feet or above, 1908—9.

32. *Drosophila spinipes*, n. sp. (Fig. 22 and Plate 20, figs. 22, 23, 24).

This is a remarkable species represented only by 5 rather imperfect female specimens; unlike nearly all the known species, these females have specialised characters on the front tarsi. The oc. are in front of ocellar area.



Fig. 22. *Drosophila spinipes*, n. sp. × 35.

♀ Head. Eyes quite bare. Top view (Plate 20, fig. 22):—slightly concave behind; behind the front f. o. b., dull orange, the upper eye-margins more shining, beyond these bristles merging to yellow: the ocellar area is not demarcated from the rest of frons, it is clothed with bristly hairs, which are exceptionally long: many similar (but shorter) small convergent bristles exist on the front part of head beyond front f. o. The front f. o. are parallel, there are *two* true hind f. o. b., slightly divergent, with the usual continuing row of fine bristles down to the forehead; these are very well marked and regular. I. v. nearly meeting at tips; o. v. much divergent; p. v. nearly meeting at the tips; the oc. are quite parallel, and are inserted in front of the front ocellus. All the bristles are brown. Front view:—face rather narrow, about twice as high as broad, fairly parallel-sided; yellow: the large 2nd antennal joint approximated at base, no true central keel,

but a shallow depression for the antennæ. Side view (Plate 20, fig. 23):—antennæ; 2nd joint large, orange, covered with pale bristles with one spine at top; small darkened 3rd joint, the arista with basal joints very distinct; three upper, one lower, one terminal ray, the inner row is absent. Short stout vibrissa with usual following row of fine bristles. Palpi orange, clubbed; tongue with remarkable file-like surface. The post-orbital row is strongly developed just behind the v. b.

Thorax. Orange, entirely covered with pale brown bristles, last pair d. c. very close to scutellum; humeri with two large and a few other bristles, 2 n. p., presut., 3 over wing-base, one small and one large sternopl. Scutellum orange, bare, flattened, shaped like a triangle with much-rounded apex; terminal bristles crossed about $\frac{1}{3}$ from tip, a long bristle on side of scutellum, slightly convergent to centre line. Wings, Fig. 22, slightly yellowish; costal slit present, but no thickening; costa to 4. Halteres orange. Legs all orange, femoral rows of bristles weak; front tarsi with remarkable spines beneath (Plate 20, fig. 23), black claws and a few curious long hairs on the last joints. The other tarsi have no spines, but possess the black claws and the hairs. All the other spines are very weak, though there is a moderate terminal mid-tibial spur.

Abdomen broad, browner on disc with scattered discal and marginal bristles. The genital segments are large, forming in profile a blunt triangle whose length is roughly equal to that of the rest of the abdomen; this triangle's axis is about perpendicular to the body-axis. There is the usual hairy hump behind, and the tip of the triangle is formed by the ovipositor, which has a crown of stout short black spines.

Size, about $1\frac{3}{4}$ mm.; wing, a little over $1\frac{3}{4}$ mm.

Localities. Seychelles. Mahé: near Morne Blanc, X. 1908. Silhouette: Mare aux Cochons, IX. 1908. Praslin: Côtes d'Or Estate, XI. 1908.

33. *Drosophila hirtipes*, n. sp. (Fig. 23 and Plate 20, fig. 25).

There are two specimens of this species, both males: the dorsal sides of the front tibia and tarsus are provided with remarkable long curved hairs.

♂ Head. Eyes minutely and closely pubescent, the hairs very short, and rather fine. Top view:—eye-margins from vertex to front f. o., dullish brown-orange; the ocellar area the same, with a rounded front margin; between these the frons is more shining orange: the ocellar area from in front to the vertex as well as the front of the frons is clothed with distinct bristly hairs. Front f. o. sub-parallel, hind diverging; the continuing bristle row of the latter well marked down to forehead, its first bristle (just behind and outside the lower f. o.) much the largest. I. v. nearly touching at the tip, o. v. divergent; behind these (just below the top eye-margins) the last 2 or 3 bristles of the strongly marked post-orbital border are especially prominent, and converge to the centre. P. v. inserted on the vertical angles of the ocellar area, somewhat convergent. Oc. long, much divergent, inserted just outside and behind the front ocellus. Front view:—the large 2nd joints of the antenna are separated by a distinct space, in the middle of which is the upper narrow part of the facial keel; this broadens uniformly to the thickened upper lip with which it is almost confluent. The mouth-opening

is unusually large: the face is all blackish with minute pollination, except for the space between the antennal bases. Owing to the broad face, the antennal foveæ are rather shallow, the bottom being but little below the level of the eye-plane. Side view (Plate 20, fig. 25):—the large 2nd antennal joint is orange, its inner face with long hairs; there is an especially conspicuous top bristle, and two near the front margin, a fourth lying between the top one and the others; the smallish dark 3rd joint is slightly silky; the arista has 6 straight upper, 2 lower and a terminal ray, the inner row has some 5 or 6 rays. On each side of the face there is a clump of about 4 stout vibrissæ, followed by a strong row along the lower eye-margin: hind jowls, &c., with many bristles, 3 or 4 being especially long. Palpi dark, clubbed, strongly bristled at the end; tongue rather paler, a few long bristles behind, and very bristly at the tip.

Thorax. Moderately shining black with minute sparse golden pollen: the surface is covered with exceptionally stout and long discal bristles, which form acrostichals which are irregularly 6-rowed between the two pairs of approximated d. c.; the last discal bristles might be considered to form 4 true (though small) prescutellars. The humeri are somewhat orange, and bear two bristles; n., presut., alar and p. a. as usual, but very strong. Two very long sternopl.: the pleuræ more orange. Scutellum as thorax, but entirely bare: rather spade-shaped in profile, and flattened; two crossed terminal and two long slightly convergent side bristles, inserted at about one-third the distance from the base to the terminal pair. Wings, Fig. 23, slightly yellowish with brown veins:

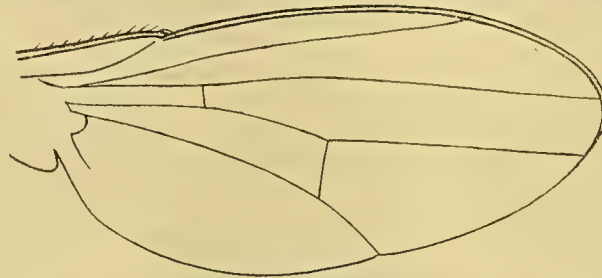


Fig. 23. *Drosophila hirtipes*, n. sp. × 30.

costa more bristly than usual, extending to 4, but the bristles ending before 3: no true costal slit. The alulæ have quite long ciliation. Halteres orange. Legs all orange, the front legs with an inferior femoral row of three very stout bristles, the back row of 3 or 4 is much less strong: strong spur and preapical to the middle tibia. All the legs with neatly arranged rows of general bristles. The most remarkable character is in the front legs. The tibia has two irregular rows of long hairs which begin a little before half-way; they number some 8 or 9: each is bent upwards in side view and inwards in front view. The first tarsal joint is similarly provided with 8 to 10 hairs, and a few more occur at the ends of the next 2 or 3 joints.

Abdomen. All brownish-black with numerous discal, and long marginal, bristles.

The whole insect is remarkably bristly for a *Drosophila*.

Size, about 3 mm.; wing, about $2\frac{1}{2}$ mm.

Localities. Seychelles. Mahé: Cascade Estate, 800 feet or above; marshes on coastal plain, Anse aux Pins and Anse Royale, I. 1909.

34. *Drosophila punctulata* Loew, Cent. ii. 100, Berlin. Ent. Zeitschr., vi. (1862).

Becker, in his paper on the Diptera of Madeira, says that Wollaston's *D. repleta* (Ann. Mag. Nat. Hist., Ser. 3. i. (1858), 117), is the same species. It seems fairly cosmopolitan, being known from Madeira, Cuba, &c.

The specimens agree with the description, although there is some variability in respect to the spotting of the thoracic dorsum. It may be noted that the costa is distinctly slit, spined and swollen at the end of 1st section. Two pairs d. c. are present. The inner row of aristal rays are present, though but 5 in number.

Localities. Seychelles. Mahé: Cascade Estate, 800 feet and over, 1908—9.

35. *Drosophila jucunda*, n. sp. (Fig. 24 and Plate 20, fig. 26).

An elegant species with beautifully marked thorax, &c.

Head. Eyes bare. Top view:—frons yellow, darkened and slightly curvilinearly ridged between eye-margin and pale centre line. The ocellar area is also darkened. Eye-margins rather shining. Front f. o. nearly parallel, inserted on inner edge of eye-margins; hind f. o. somewhat divergent: a row of fine bristles from there forward to frons. The div. i. v. and conv. o. v. are situated on two black triangles on the vertex; these are continuous with the black back of head; crossed p. v.; div. oc. inserted rather close to front ocellus. Front view:—2nd joints of antennæ touching at base; a sharp, rather narrow keel most prominent in centre. Clypeus black margined, rest of face dusky



Fig. 24. *Drosophila jucunda*, n. sp. × 40.

orange. Side view (Plate 20, fig. 26):—the black top of vertex is very prominent; antennæ; basal joints yellow, one evident spine on top; 3rd joint suffused and pubescent; arista pale to branching of lower ray except where rays leave it, 4 upper rays, the first close to base, two lower and one terminal, no sign of any inner rays. Vibrissa stout with even row of rather stout small bordering bristles. Palpi rounded stick shaped, black, tongue orange. A few long bristles on hind jowl. Post-orb. b. strongest above.

Thorax. Dull black with small discal bristles in rows and well-defined orange pollinated marks as follows: two longitudinal slightly interrupted stripes from front to about level of front d. c. b.: the black band between carries 4 acr. rows. In front of the cross suture is a short transverse line each side. An ill-defined sparse pollination on the front of the thorax lies between these and the front of the central pale line. Just outside the end of the longitudinal lines is a short oval line, outside which again are

